Interagency Ecological Program ~ Cooperative Ecological Investigations since 1970

IEP Science Highlights

Quarterly Directors Update

October 2012

Monitoring Highlights *(see also 2012 Pulse of the Delta and IEP Newsletter)***:**

- Delta smelt: Spawning conditions for delta smelt were good in 2012; at least 26% spawned at least twice. Larger fish and fish that that spawned for the second time had more eggs than smaller fish and fish spawning for the first time. The larval delta smelt "20 mm" abundance index in the spring of 2012 (11) was higher than in 2011 (8) and the highest since 2005 (15.4). Subsequent survival to juveniles, was, however, lower than in 2011 (summer "townet" index: 2012 = 0.9; 2011= 2.2; 2010=0.8) and current abundance levels appear to once again be in the "POD range" – **the POD regime continues**!
- Striped bass: the summer 2012 juvenile striped bass abundance index (1.7) was lower than in 2011 (2.6) and similar to 2010 (1.5).
- Fall Chinook returns promise to be very high this year, with a large proportion of jacks.
- Winter Chinook returns are again very low. The estimate has not been finalized, but will likely be similar to the 2007-11 average of 2,500 fish.
- New monitoring results unexpectedly suggest that white sturgeon spawn in both very wet and very dry year types in the San Joaquin River, but larval survival remains uncertain.

Bay-Delta Science Conference , October 16-18, Sacramento Convention Center

- >1000 registered participants, 245 talks, 153 posters, Delta Science Plan "Town Hall;"
- 90 IEP talks (37%), 48 IEP posters (31%);
- IEP Fall Low Salinity Habitat (FLaSH) special session with 10 talks and 17 posters;
- New methods (otoliths, telemetry, modeling, etc.) produced key new results, including:
  - Some juvenile Winter Chinook spend a month or more in the Delta on their way to the sea.
  - Good growth and condition in fresh water help Fall Chinook survive in the ocean; low condition and growth in 2012 indicate possible low returns in a few years.
  - 2011 VAMP results showed salmon mortality hot spots. Only 2% survived to Chipps Island.
  - The "North Delta Arc" from the Yolo Bypass to Suisun provides refuges for native fishes and good opportunities for experimental and adaptive habitat restoration – but watch for clams.
  - A small percentage of delta smelt live all year in the north Delta, more seasonally.
  - Sediment supplied by Yolo Bypass flooding in 2011 likely explains why Suisun Bay was more turbid than Cache Slough in fall 2011, but not in fall 2010, a year without Bypass flooding.
  - A new analysis of IEP San Francisco Bay monitoring data shows a "Bay POD."

Other IEP Science Activities and Dates:

- *2013 IEP Annual Workshop:* April 24-26, Lake Natoma Inn, Folsom, with CWEMF (4/22-24);
- *IEP Project Work Teams (PWTs*): >20 public technical meetings in 2012;
- *IEP Management, Analysis, and Synthesis Team (MAST):* see October progress report;
- *Fall Low Salinity Habitat (FLaSH):* Study continues, review report posted at http://deltacouncil.ca.gov/science-event/7070 applauds "impressive [IEP] mobilization" and urges Reclamation to "employ a Chief Scientist" with staff for 10 year+;
- *Other large field projects:* Smelt turbidity study, Sampling net comparisons for delta smelt;
- *Review of IEP Delta Juvenile Fishes Monitoring Program (DJFMP)*: to be completed in 2013.
- *Science Integration:* IEP staff is actively participating in WQMC Estuaries Work Group, Delta RMP development, and various multidisciplinary science workshops (SWRCB, ERP, etc.).